

AMENDMENTS TO THE CLAIMS

1. (currently amended) A [[P]]process for generating an intermediate laminated product in an aluminium alloy of the Al-Zn-Mg type, including the following steps said process comprising:

a) by semi-continuous casting a plate is generated containing (in percentages per unit mass)

Mg 0.5 – 2.0 Mn < 1.0 Zn 3.0 – 9.0 Si < 0.50
Fe< 0.50 Cu < 0.50 Ti < 0.15 Zr < 0.20
Cr < 0.50

~~the remainder of the aluminium with its inevitable impurities, in which Zn/Mg > 1.7;~~

b) said plate is subjected to homogenisation or reheating to a temperature T_1 , selected so that $500^\circ\text{C} \leq T_1 \leq (T_s - 20^\circ\text{C})$, where T_s is the alloy burning temperature,

c) an initial hot-rolling step is carried out including one or more roll runs on a hot rolling mill, the input temperature T_2 being selected such that $(T_1 - 60^\circ\text{C}) \leq T_2 \leq (T_1 - 5^\circ\text{C})$, and the rolling process being conducted in such a way that the output temperature T_3 is such that $(T_1 - 150^\circ\text{C}) \leq T_3 \leq (T_1 - 30^\circ\text{C})$ and $T_3 \leq T_2$;

d) the strip emerging from said initial hot-rolling step is cooled to a temperature T_4 ;

e) a second step of hot-rolling said strip is carried out, the input temperature T_5 being selected such that $T_5 \leq T_4$ and $200^\circ\text{C} \leq T_5 \leq 300^\circ\text{C}$, and the rolling process being conducted in such a way that the coiling temperature T_6 is such that $(T_5 - 150^\circ\text{C}) \leq T_6 \leq (T_5 - 20^\circ\text{C})$.

2. (currently amended) A [[P]]process according to claim 1, characterised in that wherein the zinc content of the alloy is between from 4.0 and to 6.0%, the Mg content is between from 0.7 and to 1.5%, and the Mn content is less than 0.60%.

3. (currently amended) A [[P]]process according to claim 2, characterised in that wherein Cu < 0.25%.

4. (currently amended) A [[P]]process according to claim 2, characterised in that wherein the alloy is chosen selected from the group formed by the consisting of alloys 7020, 7108, 7003, 7004, 7005, 7008, 7011, and 7022.

5. (currently amended) A [[P]]process according to any one of claim[[s]] 1 to 3, characterised in that wherein the alloy additionally contains one or more elements chosen selected from the group formed by consisting of Sc, Y, La, Dy, Ho, Er, Tm, Lu, Hf, and Yb with a concentration not exceeding the following values:

Sc < 0.50% and preferably < 0.20%,

Y < 0.34% and preferably < 0.17%,

La, Dy, Ho, Er, Tm, Lu < 0.10% each and preferably < 0.05% each,

Hf < 1.20% and preferably < 0.50%,

Yb < 0.50% and preferably < 0.25%.

6. (currently amended) A [[P]]process according to any one of claim[[s]] 1 to 5, characterised in that wherein said intermediate laminated product has a thickness between from 3 mm and to 12 mm.

7. (currently amended) A [[P]]process according to any one of claim[[s]] 1 to 6, characterised in that wherein said intermediate laminated product is subjected to cold working from 1% and to 9%, and/or to an additional heat treatment including one or more points at temperatures between from 80°C and to 250°C, said additional heat treatment being able to occur before, after or during said cold working.

8. (currently amended) A [[P]]process according to any one of claim[[s]] 1 to 7, characterised in that wherein the temperature T₃ is such that (T₁ – 100°C) ≤ T₃ ≤ (T₁ – 30°C) and/or in that the temperature T₂ is such that (T₁ – 30°C) ≤ T₂ ≤ (T₁ – 5°C).

9. (currently amended) A [[P]]process according to any one of claim[[s]] 1 to 8, characterised in that wherein the temperature T_3 is greater than the a solvus temperature of the alloy.

10. (currently amended) A [[P]]process according to any one of claim[[s]] 1 to 9, characterised in that the alloy is a 7108 alloy and the temperatures T_1 to T_6 are respectively $T_1 = 550^\circ\text{C}$, $T_2 = 540^\circ\text{C}$, $T_3 = 490^\circ\text{C}$, $T_4 = 270^\circ\text{C}$, $T_5 = 270^\circ\text{C}$, $T_6 = 150^\circ\text{C}$.

11. (currently amended) A [[P]]product which can be obtained via the a process according to any one of claim[[s]] 1 to 10, characterised in that its wherein the yield strength $R_{p0.2}$ of said product is at least 250 Mpa, its the fracture strength R_m of said product is at least 280 MPa, and its the elongation at fracture of said product is at least 8%.

12. (currently amended) A [[P]]product according to claim 11, characterised in that its wherein the yield strength $R_{p0.2}$ is at least 290 MPa and that its the fracture strength R_m is at least 330 MPa.

13. (currently amended) A [[P]]product according to any one of claim[[s]] 11 or 12, characterised in that wherein the zinc content thereof is between from 4.0 and to 6.0%, its the Mg content is between 0.7 and 1.5%, and its the Mn content is less than 0.60% (and preferably less than 0.25%).

14. (currently amended) A [[P]]product according to claim 13, characterised in that its wherein the copper content thereof is less than 0.25%.

15. (currently amended) A [[P]]product according to any one of claim[[s]] 13 or 14, characterised in that wherein the width of the precipitation-free zones at the grain boundaries thereof is more than 100 nm, preferably between 100 nm and 150 nm, and even more preferably from 120 nm to 140 nm.

16. (currently amended) A [[P]]product according to claim 15, characterised in that that wherein MgZn₂ type precipitations at the grain boundaries have an average size of more than 150 nm, and preferably between 200 nm and 400 nm.

17. (currently amended) A [[P]]product according to any one of claim[[s]] 11 to 16, characterised in that it wherein said product has a fibrous structure with grains exhibiting in the short-transverse direction a thickness of less than 30 µm, preferably less than 15 µm, and even more preferably less than 10 µm.
18. (currently amended) A [[P]]product according to claim 17, characterised in that it wherein said product has a fibrous structure characterised by having a thickness/length of grains ratio of more than 60, and preferably more than 100.
19. (currently amended) A use of a laminated product according to any one of claims 11 to 18 to manufacture welded construction[[s]] comprising a product of claim 11.
20. (currently amended) A Use of a laminated product according to any one of claims 11 to 18 to build road or rail tanker[[s]] comprising a product of claim 11.
21. (currently amended) An Use of a laminated product according to any one of claims 11 to 18 to build industrial vehicle[[s]] comprising a product according to claim 11.
22. (currently amended) A method for Use of a laminated product according to any one of claims 11 to 18 to building equipment for storage, transport or handling of granulous products, such as buckets, tanks or conveyors comprising using a product of claim 11 that is laminated.
23. (currently amended) A Use of a laminated product according to any one of claims 11 to 18 to manufacture motor vehicle part[[s]] comprising a product according to claim 11.
24. (currently amended) Use of a laminated product according to any one of claims 11 to 18 as a A structural component in aeronautical construction comprising a product according to claim 11.
25. (currently amended) Use according to claim 24, wherein said structural component is a A fuselage facing sheet comprising a structural component according to claim 24.

26. (currently amended) ~~Use according to any one of claims 19 to 25, wherein A method for making a welded construction according to claim 19 comprising assembling at least two of said structural components are assembled by welding.~~

27. (currently amended) ~~A [[W]]welded construction made with comprising at least two products according to any one of claim[[s]] 11 to 18, characterised in that its having a yield strength $R_{p0.2}$ in the a welded joint between two of said products is of at least 200 MPa.~~

28. (currently amended) ~~A [[W]]welded construction according to claim 27, wherein the yield strength $R_{p0.2}$ in the welded joint between two of said products is at least 220 MPa.~~

29. (currently amended) ~~A [[W]]welded construction made with comprising at least two products according to any one of claim[[s]] 11 to 18, characterised in that its having a fracture strength R_m in the a welded joint between two of said products is of at least 250 MPa.~~

30. (currently amended) ~~A [[W]]welded construction according to claim 29, wherein the fracture strength R_m in the welded joint between two of said products is at least 300 MPa.~~

31. (currently amended) ~~A [[W]]welded construction according to any one of claim[[s]] 27 to 30, wherein the having a hardness in the a heat-affected zone is of greater than or equal to 100 HV, preferably greater than or equal to 110 HV, and even more preferably greater than or equal to 115 HV.~~

32. (currently amended) ~~A [[W]]welded construction according to claim 31, wherein the hardness in the heat-affected zone is at least as great as the hardness of those of the a base sheet that has the lowest level of hardness.~~